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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,816	12/04/2003	Charles Hood	16356.836 (DC-05456)	7468

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EXAMINER

HOFFBERG, ROBERT JOSEPH

ART UNIT	PAPER NUMBER
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2835

DATE MAILED: 03/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/727,816

Applicant(s)

HOOD ET AL.

Examiner

Robert J. Hoffberg

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/16/06.
2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-21 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 07 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

Detailed Action

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2 and 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Villanueva et al. (US 2005/0030718) in view of Bright et al. (US 5,241,453).

With respect to Claim 1, Villanueva et al. teaches a processor loading apparatus comprising: a board member (Fig. 2, #26); a processor socket mounted (Fig. 2, #30) on the board member; a processor (Fig. 2, #28) seated in the processor socket; a frame member (Fig. 2, #10) mounted on the board member; a plurality of connector portions (Fig. 3, #16 and 18) on the frame member; and a resilient load member (Fig. 2, #12) with a first end (Fig. 3, #16) connected to one of the connector portions and a second end (Fig. 3, #18) connected to another one of the connector portions, whereby the connection of the second end deforms (see Fig. 3) the load member into a substantially parallel engagement (Para. 0019, line 16) with the processor and urges the processor into the processor socket. While Villanueva et al. fails to teach a curved resilient load member, it does teach that the load member applies a force against the processor (Para. 0019, line 19). Bright et al. teaches a curved resilient load member (Fig. 1, #20 and Col. 3, line 21) that is deformed into a substantially parallel engagement (Col. 3, line 23). It would have been obvious to one of ordinary skill in the art at the time of the

invention was made to modify the processor loading apparatus of Villanueva et al. with that of Bright et al. (US 5,241,453) for the purpose of restraining a curved resilient member to apply a force to bias the processor to seat in a processor socket.

With respect to Claims 2, Villanueva et al. further teaches wherein the frame member surrounds (see Fig. 3) the processor socket.

With respect to Claims 4, Villanueva et al. further teaches wherein the first end of the resilient load member is pivotally (Fig. 2, #16) connected to one of the connector portions and the second end is latched (Fig. 3, #18) to another one of the connector portions.

With respect to Claims 5, Villanueva et al. further teaches wherein the processor includes a thermal connection surface (Para. 0022, line 18).

With respect to Claims 6, Villanueva et al. further teaches wherein the resilient load member includes an opening (Fig. 2, #20) whereby when the second end of the resilient load member is forcibly connected to its respective connector portion, the thermal connection surface is exposed in the opening.

3. Claims 3, 7-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Villanueva et al. (US 2005/0030718) in view of Bright et al. (US 5,241,453) as applied to the above claims, and further in view of Ma (US 6,791,847).

With respect to Claim 3, Villanueva et al. in view of Bright et al. teaches the apparatus of claim 1. They do not teach a support member. Ma teaches a support member (Fig. 1, #72) mounted on the board member (Fig. 1, #50) adjacent to the frame member (Fig. 1, #36). While Villanueva et al. fails to disclose a means of attaching of a

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the frame to the board, it would be obvious that a means for fastening the frame to the board member by using a support member as taught by Ma would be used to fasten the frame member to the board member. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the processor loading apparatus of Villanueva et al. in view of Bright et al. with that of Ma for the purpose of using the support member on an opposite side of the board to fasten the frame member to the board member.

With respect to Claim 7, 9, 14 and 16, Villanueva et al. teach a heat sink mounting apparatus or information handling system comprising: a board member (Fig. 2, #26); a processor socket (Fig. 2, #30) mounted on the board member and coupled to a mass storage device and a system memory (Para. 0004, line 5, stores); a processor (Fig. 2, #28) seated in the processor socket; a frame member (Fig. 2, #10) mounted on the board member; a plurality of connector members (Fig. 3, #16 and 18) on the frame member; a resilient load member (Fig. 2, #12) with a first end (Fig. 3, #16) connected to one of the connector members and a second end (Fig. 3, #18) connected to another one of the connector members, whereby the connection of the second end deforms (see Fig. 3) the load member into a substantially parallel engagement (Para. 0019, line 16) with the processor and urges the processor into the processor socket; and a heat sink (Fig. 3, #34) mounted on the frame and adjacent to the load member. Villanueva et al. does not disclose a curved load member and a support member. Bright et al. teaches a curved resilient load member (Fig. 1, #20 and Col. 3, line 21) that is deformed into a substantially parallel engagement (Col. 3, line 23). It would have been obvious to

one of ordinary skill in the art at the time of the invention was made to modify the processor loading apparatus of Villanueva et al. with that of Bright et al. for the purpose of restraining a curved resilient member to apply a force to bias the processor to seat in a processor socket. Ma teaches a support member (Fig. 1, #72) mounted on an opposite side (see Fig. 1) of the board (Fig. 1, #50) from the frame member (Fig. 1, #36). While Villanueva et al. fails to disclose a means of attaching of a the frame to the board, it would be obvious that a means for fastening the frame to the board member by using a support member as taught by Ma would be used to fasten the frame member to the board member. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the heat sink mounting apparatus or information handling system of Villanueva et al. with that of Ma for the purpose of using the support member on an opposite side of the board to fasten the frame member to the board member.

With respect to Claims 8 and 15, Villanueva et al. further teaches wherein the frame member surrounds (see Fig. 3) the processor socket.

With respect to Claims 10 and 17, Villanueva et al. further teaches wherein the first end of the resilient load member is pivotally (Fig. 2, #16) connected to one of the connector portions and the second end is latched (Fig. 3, #18) to another one of the connector portions.

With respect to Claims 11 and 18, Villanueva et al. further teaches wherein the processor includes a thermal connection surface (Para. 0022, line 18).

With respect to Claims 12, and 19, Villanueva et al. further teaches wherein the resilient load member includes an opening (Fig. 2, #20) whereby when the second end of the resilient load member is forcibly connected to its respective connector portion, the thermal connection surface is exposed in the opening.

With respect to Claims 13 and 20, Villanueva et al. further teaches wherein the heat sink engages (see Fig. 3) the thermal connection surface.

Regarding method claim 21, the method steps recited in the claim is inherently necessitated by the device structure as taught by Villanueva et al. in view of Bright et al. and further in view of Ma.

Response to Arguments

Applicant's arguments filed 3/16/06 have been fully considered but they are not persuasive. Applicant argues based upon on his amended claims. While applicant by amending his claims overcomes the prior art cited in the first office action, the amended claims are obvious based upon the additional prior art cited within this office action.

Regarding the motivation to combine Villanueva et al. with that of Ma. While Villanueva et al. fails to disclose a means of attaching of a the frame to the board, it would be obvious that a means for fastening the frame to the board member by using a support member as taught by Ma would be used to fasten the frame member to the board member. Ma teaches that the support member is used as a means to fasten the frame member to the board that surrounds a processor socket at Ma, Col. 1, lines 45-46.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. McHugh et al. (US 6,570,763) teaches a frame with a curved resilient load member deforming to substantially parallel while urging a processor into a board mounted processor socket.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

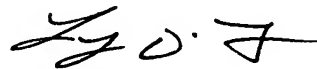
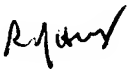
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert J. Hoffberg whose telephone number is (571) 272-2761. The examiner can normally be reached on 8:30 AM - 4:30 PM Mon - Fri.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn D. Feild can be reached on (571) 272-2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RJH



LYNN FEILD
SUPERVISORY PATENT EXAMINER
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